

# American Museum Novitates

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PUBLISHED BY THE AMERICAN MUSEUM OF NATURAL HISTORY  
CENTRAL PARK WEST AT 79TH STREET, NEW YORK 24, N.Y.

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NUMBER 1745

AUGUST 12, 1955

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## The Pleasing Fungus Beetles Collected on the Explorers Club-American Museum of Natural History Entomological Expedi- tion to Yucatan, Mexico, in 1952 (Coleoptera, Erotylidae)

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The material for the present paper was collected by the author and Mrs. Pallister in 1952, from the northern half of the peninsula of Yucatan, Mexico. The trip was largely sponsored by the Explorers Club, C. R. Vose Exploration Fund, with some assistance from the American Museum of Natural History. The purpose of the trip was to collect insects and make motion pictures and photographic studies of the natural history and of the people of this region. The insects were to be added to the collections of the Museum; the motion pictures, to provide lectures and the photographs to illustrate publications. In all about three months were spent in the study of this interesting country.

The northern half of the Yucatan Peninsula is subjected to two sharply delineated seasons, the dry and the wet. The dry season roughly corresponds to our winter and extends through about six months of the year, from November through April. In May the rains start, and they continue into October.

The dry season is excessively dry, so much so that many of the trees lose their leaves. At times the temperature drops almost to freezing point,

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when strong winds sweep in from the north across the Gulf of Mexico.

During the wet season the rains steadily increase in frequency and volume, until at the height of the season violent electrical storms with torrential rains occur every afternoon, which continue for two or three hours. Instead of stopping during the afternoon, these rains occasionally taper off into a drizzle which then continues into the evening. At this season it is quite warm, with the temperature rising to 80° to 90° F. during the day, but usually with some cooling off at night, when the temperature drops to 70°-80° F.

The peninsula of Yucatan is a vast, nearly flat, somewhat porous layer of limestone about 180 miles wide from east to west and a nearly equal distance north and south. From sea level along the coast the country slopes slightly up with a gradient of about one foot to the mile, culminating in a low range of hills that rise another 500 feet and lying some 75 to 100 miles distant from the sea. Except in the extreme south of the Peninsula there are no rivers and no lakes. But underground, usually within 50 or 75 feet of the surface, lies the water table, like an underground sea, and is frequently referred to as an underground flowing river, for undoubtedly the water does move gradually outward to the north, east, and west, or towards the sea. All the tremendous quantity of rain that falls during the wet season seeps through this limestone layer to add to the water under ground. Here and there the limestone, owing to disintegration underneath, has caved in to form natural wells, called "cenotes." It was around these natural wells that the villages of the Mayan Indians developed, for they were their only continuous source of water.

The northwestern part of the Peninsula is arid even in the rainy season. It supports a stunted growth of acacias and scattered cacti in the scanty soil that has collected in depressions on the limestone rock. Large trees are few and far between, continuing to exist only around the buildings of the henequin haciendas. This is a country in which people have lived for many generations, and any large trees that may have flourished in the outlying parts of the region have fallen under the axes of the natives to be used for firewood. Now only the more thorny bushes and trees continue to persist. Because of its arid condition and high temperature, this region is known as the Arid Lower Tropical Zone.

To the east, southeast, and south the country does not suffer so much from the dry season, the soil is much deeper, and the vegetation is more vigorous. Plant species increase in number. The trees, particularly the Mexican cedar, a species of mahogany, reach to a considerable height. The country in general assumes the type that is usually considered to be

jungle and is part of the Humid Lower Tropical Zone. Both the Arid Lower Tropical and the Humid Lower Tropical Zones continue south, with some interruptions, through southern Mexico, Central America, and into South America.

Erotylid beetles are fungus feeders. The larger species are usually associated with the fungi and their mycelium that grow best under the bark of old logs or fallen trees. The smaller species occur in the mushroom type or the bracket forms that grow on old tree trunks. Only a few species are able to exist in the more arid regions because of the scarcity of fungi (Pallister, 1955).

Four species representing three genera of erotylids were taken on the expedition to the Yucatan Peninsula. Previous to this collecting there were no specimens of this family of beetles from this region in the collections of the American Museum of Natural History. In fact, there are few records available of this family, or for that matter any family of beetles, from the Yucatan Peninsula. The most extensive report on the insects of this region was made sixty years ago and published in the various parts of the "Biologia Centrali-Americana." Most of these records were made at only a few localities, Temax being the principal collecting place in Yucatan.

We have as yet not enough information to form an accurate idea as to the number of erotylid species occurring in Yucatan, but it is probable that there are not many. The four species collected are from four localities, all in the eastern or the more humid tropical sections of the Peninsula. All the species have a definite connection with the erotylid fauna occurring towards the south. Two of the species of one genus, *Aegithus*, have been recorded from Yucatan previously. The other two, representing two genera, have never been recorded from Yucatan before.

In the case of the erotylids (and this applies to some of the other families of beetles, as for instance the Paussidae, which seem to have a definite tropical origin) the fauna of the Yucatan Peninsula is largely derived from the south, from British Honduras, rather than from the east coast of Mexico across the Gulf of Mexico, from Florida, or from the West Indies. This movement from the south in general appears to have followed the Humid Lower Tropical Zone which lies along the east coast of the Central Americas from Colombia and Panama north through British Honduras into Yucatan. Indeed this northward movement may have resulted in the establishment of the erotylid fauna of eastern Mexico, the southern United States, and Florida, as well as Cuba, by means of floating logs, or hurricanes. The genus *Ischyurus* may very well have been one group of which species crossed over in some manner into Mexico, the

West Indies, and the United States, because many of the species from these countries show a very close affinity with those farther south.

I wish to thank Dr. Mont A. Cazier, Chairman of the Department of Insects and Spiders of the American Museum of Natural History, for the time taken to read the manuscript and for his helpful suggestions for its improvement. Thanks also are due Dr. C. H. Curran, Curator, Department of Insects and Spiders, the American Museum of Natural History, for the time taken to read the manuscript and particularly for suggestions in regard to the nomenclature of the genus *Alloiotelus*. Special thanks go to Mr. C. R. Vose of the Explorers Club and the C. R. Vose Exploration Fund for sponsorship which made possible the expedition and the field work for this paper.

#### GENUS *AEGITHUS* FABRICIUS

A genus of medium-sized, nearly hemispherical beetles, usually red or yellow in color, but a few black or having large black spots. In addition to the color, they can be separated from the rest of the subfamily Erotylinae by the finely faceted eyes, 11-jointed antennae with the antennal club not head-shaped, the short prothorax, concave in front, sides narrowing strongly towards the apex.

It is a large genus numbering over 70 species and a number of subspecies. They are restricted to the tropical regions of Central and South America, with the greatest concentration of species in the Amazonian region of Brazil. Three have been recorded from as far south as Argentina, 11 from Mexico, and one from the Lesser Antilles of the West Indies. None have been recorded from the United States.

#### *Aegithus rufipennis* Chevrolat

*Aegithus rufipennis* CHEVROLAT, 1834, Coléoptères du Mexique, fasc. 4, no. 87.

TYPE LOCALITY: Mexico: "Orixaba."

RECORDED MEXICAN DISTRIBUTION: *Veracruz*: Orizaba; Cordova; Toxpam; San Andres Tuxtla; Playa Vicente. *Tabasco*: Teapa; Jalapa. *Chiapas*: Tapachula. *Yucatan*.

Also British Honduras: Belize. Guatemala: Yzabal, Cubilquit, Panzos, Teleman, Chacoj, San Juan in Vera Paz, El Reposo, Las Mercedes, Cerro Zunil, San Isidro, Zapote, Dueñas.

NEW RECORDS FOR MEXICO: *Yucatan*: Chichen Itza, July 19, 1952, one.

This is a striking species with its black head, prothorax, and under side, and the contrasting brick red elytra. It may be readily distinguished from the more common and more widely distributed *Aegithus clavicornis*

Linneaus, which it closely resembles, by the entirely black abdomen, instead of red as in *clavicornis*.

It is a rather common species throughout its wide range of the more humid and forested areas of southern Mexico and Guatemala, reaching its greatest concentration in Guatemala, judging by the number of records from that region. The one specimen collected on the expedition was taken while sweeping vegetation along a rather open jungle trail.

*Aegithus quadrinotatus* Chevrolat

*Aegithus quadrinotatus* CHEVROLAT, 1834, Coléoptères du Mexique, fasc. 4, no. 89.

TYPE LOCALITY: Mexico: Toulepeck.

RECORDED MEXICAN DISTRIBUTION: Veracruz: Orizaba; Tuxpam; Cordova. Oaxaca: Juquila. Tabasco: Teapa. Yucatan.

Also British Honduras: Belize, Rio Sarstoon. Guatemala: Purula, San Gerónimo, Balheu, Cubilquit, Chacoj, San Joaquin, San Juan in Vera Paz, Panzoz. Nicaragua: Chontales.

New Records for Mexico: Yucatan: Colonia Yucatan, August 13, 1952, one; Old Chichen Itza, September 14, 1952, one.

This is a widespread species which ranges throughout the more humid tropical areas of Mexico and Central America from southern Mexico into Nicaragua and possibly farther south. I have never seen any other specimens from Yucatan, but the two taken on the expedition differ from most of the specimens of this species that I have seen from central and southern Mexico and farther to the south by having the yellow reduced to rather narrow lines. This results in the specimen's appearing much blacker for the black spots are much larger, and the sides more straight. The basal spots are almost quadrangular, and the apical spots are nearly triangular.

The two specimens were taken from old logs: the one at Colonia Yucatan on a log along a jungle trail, the one at Old Chichen from under the bark of a log several feet above the ground along an open trail.

GENUS *ALLOIOTELUS* HOPE

I am using the name *Alloiotelus* Hope (1841) for the present genus instead of *Zonarius* Hope (1841) which has been and is still used in most catalogues. However, Curran (1944) found that *Zonarius* Hope was incorrectly applied by Lacordaire (1842) to this group. *Alloiotelus* will therefore replace *Zonarius* and *Zonarius* should be used in present existing catalogues in place of *Megalodacne*.

The species of this genus are of medium size, ovate, and usually black, with the elytra crossed with three or four yellow bands. The characters

that separate this genus from some of the other closely allied genera of the subfamily Erotylinae are rather vague and indefinite. However, the finely facetted eyes, 11-segmented antennae, very slender, elongated, not head-shaped antennal club, wing-covers not heart-shaped, and prothorax with two faint indentations at base are some of the principal characters.

This is a medium-sized genus, which numbers about 20 species and several subspecies. As is the previous genus it is restricted to the tropical areas of Mexico, Central and South America, with the greatest number in the Amazonian region. One species ranges south into Argentina and two range north into Mexico. None have been taken in the United States or the West Indies.

*Alloiotelus zebra* Fabricius

*Erotylus zebra* FABRICIUS, 1787, *Mantissa insectorum*, vol. 1, p. 92.

TYPE LOCALITY: "Guiana: Cayenne."

RECORDED MEXICAN DISTRIBUTION: *Veracruz*: Toxpam. *Tabasco*: Teapa.

Also British Honduras: Belize. Guatemala: Zapote. Colombia. French Guiana: Cayenne. Ecuador: Quito. Trinidad.

NEW RECORDS FOR MEXICO: *Yucatan*: Colonia Yucatan, August 12-22, 1952, five.

This species is rather common and widespread throughout the more humid tropical areas from southern Mexico south through Central America into Colombia and Ecuador and across northern South America as far as the Guianas. It is a distinctive species easily separated from its closest ally, *A. fractus* Crotch from Colombia, and some others closely resembling it, by the fact that the black median fascia is entire instead of being broken into spots. The bicolored prothorax, yellowish in the front and black along the base, will also serve to separate this species from others of the genus *Alloiotelus* closely resembling it.

The five specimens taken on the expedition come from a single locality in the more heavily forested region of the eastern part of the State of Yucatan close to the Territory of Quintana Roo. These specimens extend the range of this species considerably to the north from any previous record. Two were taken from old logs and three by sweeping vegetation along open jungle trail.

GENUS *ISCHYRUS* LACORDAIRE

The beetles of this genus are small, usually less than 10 mm. in length, oval or elongate-ovate, shiny, usually black, with red or yellow spots or bands, or the red or yellow is dominant, with black spots or bands. Al-

though the generic characters are not especially marked, the members of the genus can usually be separated from the rest of the tribe *Triplacini* by the rather small head, large, coarsely granulated eyes, triangular mentum, and short, three-segmented antennal club.

Many of the erotylid genera are restricted to either the Western or the Eastern Hemisphere; the genus *Ischyurus* is found only in the Americas. The genus numbers at present about 60 species and several subspecies. Also, as do many of the American erotylid genera, this genus has its greatest concentration of species in the humid forested region of Central America and northern South America. Two species extend south into northern Argentina, nine north into Mexico, five are recorded from the West Indies, and three possible species and one subspecies come from the United States.

*Ischyurus pictus* Gorham

*Ischyurus pictus* GORHAM, 1887, *Biologia Centrali-Americanica, Coleoptera*, vol. 7, p. 42, pl. 3, fig. 4.

TYPE LOCALITY: Guatemala: San Juan in Vera Paz.

RECORDED MEXICAN DISTRIBUTION: Not previously recorded.

NEW RECORD FOR MEXICO: *Yucatan*: Colonia Yucatan, August 12, 1952, one.

Gorham described this species from a single specimen collected by Champion. The one specimen taken on the expedition extends the range considerably to the north of the type locality. It was collected while sweeping vegetation along a jungle trail.

This is an attractive species, patterned, as are many others in the genus, in black and yellow. It seems more closely allied to a Panama species, *I. quinquepunctatus* Gorham, from which it differs by its slightly larger size. The three basal spots of the prothorax connected along the base, the two outside ones somewhat triangular in shape, will also serve to separate this species from *quinquepunctatus*, as well as other species which closely resemble it.

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